

**UCC/UGC/ECCC**

Proposal for Course Change

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| **[x]  FAST TRACK (Select if this will** **be a fast track item. Refer to**  [***Fast Track Policy***](http://www4.nau.edu/avpaa/UCCPolicy/Agenda_FastTrack_Consent.docx) **for eligibility)** |

# *If the changes included in this proposal are significant, attach copies of original and proposed syllabi in* [*approved university format*](http://www4.nau.edu/avpaa/UCCForms/syllabus.doc)*.*

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| 1. Course subject and number: | **ME 495** | 2. Units: | **3** |

 [**See upper and lower division undergraduate course definitions**](http://www4.nau.edu/avpaa/UCCPolicy/Uplow.doc).

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| 3. College: | CEFNS | 4. Academic Unit: | Mechanical Engineering |

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| 5. Current Student Learning Outcomes of the course.* To apply fundamental science and engineering principles to solve problems related to measurement systems and measurement signals.
* To provide students with a fundamental understanding of measurement systems and how to analyze experimental data.
* To have students learn the fundamentals of computerized data acquisition, and apply these fundamentals in a laboratory environment.
* To be familiar with the state-of-the-art in experimental methods as applied to the thermal-fluid sciences, especially pressure, velocity, flow, and temperature measurement systems.
* To function in a team environment, and to be able to lead a team experiment.
* To apply statistics to the analysis of experimental data.
 | Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. *(*[*Resources & Examples for Developing Course Learning Outcomes*](http://www4.nau.edu/avpaa/Assessment/CourseLearningOutcomesPDF_090712.pdf)*)***UNCHANGED** |

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| 6. Current **title,** **description** and **units**. Cut and paste, in its entirety,from the current on-line academic catalog\* [**http://catalog.nau.edu/Catalog/**](http://catalog.nau.edu/Catalog/).**ME 495 EXPERIMENTAL METHODS IN THE THERMAL SCIENCES (3)**Description: Fundamental methods of acquiring and analyzing experimental data in the thermal sciences, including applied statistics. Experiments in thermodynamics, fluid mechanics, heat transfer, and thermal-fluid systems. 2 hrs. lecture, 2.5 hrs lab; lectures end after ten weeks. Letter grade only. Course fee required.Units: 3Prerequisite: (EGR 225 or CENE 225) and EE 188 with grades of C or better Pre- or Co requisite: ME 450 | Show the proposed changes in this column **Bold** the proposed changes in this column to differentiate from what is not changing, and **~~Bold with strikethrough~~**what is being deleted.**ME 495 EXPERIMENTAL METHODS IN THE THERMAL SCIENCES (3)**Description: Fundamental methods of acquiring and analyzing experimental data in the thermal sciences, including applied statistics. Experiments in thermodynamics, fluid mechanics, heat transfer, and thermal-fluid systems. 2 hrs. lecture, **~~2.5~~** **3** hrs lab; lectures end after ten weeks. Letter grade only. Course fee required.Units: 3Prerequisite: **ME 395, EE 188, and** (EGR 225 or CENE 225) **~~and EE 188~~** with grades of C or better**.**  Pre- or Co requisite: ME 450 |

\*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

 7. Justification for course change.

**Added ME 395 as a prerequisite because it is necessary for success in the class. The change to have the lab as 3 hrs instead of 2.5 hrs is consistent with other labs that meet for this length of time.**

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| 8. Effective **BEGINNING** of what term and year? | **Fall 2014** |
| [**See effective dates calendar**](http://www4.nau.edu/avpaa/timelines/1314Effective.xls). |  |

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**

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| **CURRENT** | **PROPOSED** |
| Current course subject and number: | Proposed course subject and number: |
| Current number of units: | Proposed number of units: |
| Current short course title: | Proposed short course title (max 30 characters): |
| Current long course title: | Proposed long course title (max 100 characters): |
| Current grading option:letter grade [ ]  pass/fail [ ]  or both [ ]  | Proposed grading option:letter grade [ ]  pass/fail [ ]  or both [ ]  |
| Current repeat for additional units: | Proposed repeat for additional units: |
| Current max number of units: | Proposed max number of units: |
| Current prerequisite:(EGR 225 or CENE 225) and EE 188 with grades of C or better. Pre- or Co requisite: ME 450 | Proposed prerequisite (include rationale in the justification): **ME 395, EE 188, and (EGR 225 or CENE 225) with grades of C or better. Pre- or Co requisite: ME 450** |
| Current co-requisite:Pre- or Co requisite: ME 450 | Proposed co-requisite (include rationale in the justification): **Pre- or Co requisite: ME 450** |
| Current co-convene with: | Proposed co-convene with: |
| Current cross list with: | Proposed cross list with: |

9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes [x]  No [ ]

 If yes, describe the impact. If applicable, include evidence of notification to and/or response

 from each impacted academic unit.

**Mechanical Engineering; B.S.E.**

10. Is there a related plan or sub plan change proposal being submitted? Yes [x]  No [ ]

 If no, explain.

**These prerequisite changes will not require any related plan changes.**

11. Does this course include combined lecture and lab components?                  Yes [ ]  No [x]

 If yes, include the units specific to each component in the course description above.

**Answer 12-15 for UCC/ECCC only:**

12. Is this course an approved Liberal Studies or Diversity course?                    Yes [ ]  No [x]         If yes, select all that apply.   Liberal Studies [ ]    Diversity [ ]    Both [ ]

13. Do you want to remove the Liberal Studies or Diversity designation?            Yes [ ]  No [ ]

 If yes, select all that apply.   Liberal Studies [ ]    Diversity [ ]     Both [ ]

14. Is this course listed in the [**Course Equivalency Guide**](https://aztransmac2.asu.edu/cgi-bin/WebObjects/Admin_CEG.woa/wa/ByInst?inst=NAU)?                               Yes [ ]  No [x]

15. Is this course a [**Shared Unique Numbering**](https://aztransmac1.asu.edu/cgi-bin/WebObjects/ATASS.woa/wa/SUNList?S=X) (SUN) course?                            Yes [ ]  No [x]

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| **FLAGSTAFF MOUNTAIN CAMPUS** |  |
| **Scott Galland** | **2/5/2014** |
| Reviewed by Curriculum Process Associate | Date |
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| **Approvals**: |  |
| **F. Ernesto Penado** | **2/5/2014** |
| Department Chair/Unit Head (if appropriate) | Date |
|  |  |
| Chair of college curriculum committee | Date |
|  |  |
| Dean of college | Date |
|  |  |
| **For Committee use only:** |  |
|  |  |
| UCC/UGC Approval | Date |

Approved as submitted: Yes [ ]  No [ ]

Approved as modified: Yes [ ]  No [ ]

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| **EXTENDED CAMPUSES** |  |
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| Reviewed by Curriculum Process Associate | Date |
|  |  |
| **Approvals:**  |  |
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| Academic Unit Head | Date |
|  |
| Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  |
| Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning) | Date |
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| Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  |
| Chief Academic Officer; Extended Campuses (or Designee) | Date |
|  |  |

Approved as submitted: Yes [ ]  No [ ]

Approved as modified: Yes [ ]  No [ ]